

Abstract of the Disclosure

A plastid transformation vector for a stably transforming a plastid genome is provided. The vector includes, as operably-linked components, a first flanking sequence, a DNA sequence coding for a therapeutic human IFN, which is capable of expression in the plastid and a second flanking sequence. The invention also provides isolated and purified IFN, wherein the IFN is configured in a monomeric or multimeric form and is a structural equivalent to orally administered human IFN. Also provided are methods for variable-expressing biopharmaceutical proteins in plants suitable for mammal consumption. The method includes integrating a plastid transformation vector into a plastid genome of a plant cell; growing the plant cell to express a biopharmaceutical protein, such as therapeutic human interferon IFN. Also disclosed are plants transformed with the aforementioned vectors, and the progeny thereof. Also, disclosed is the IFN, which is IFN $\alpha$ 2b.

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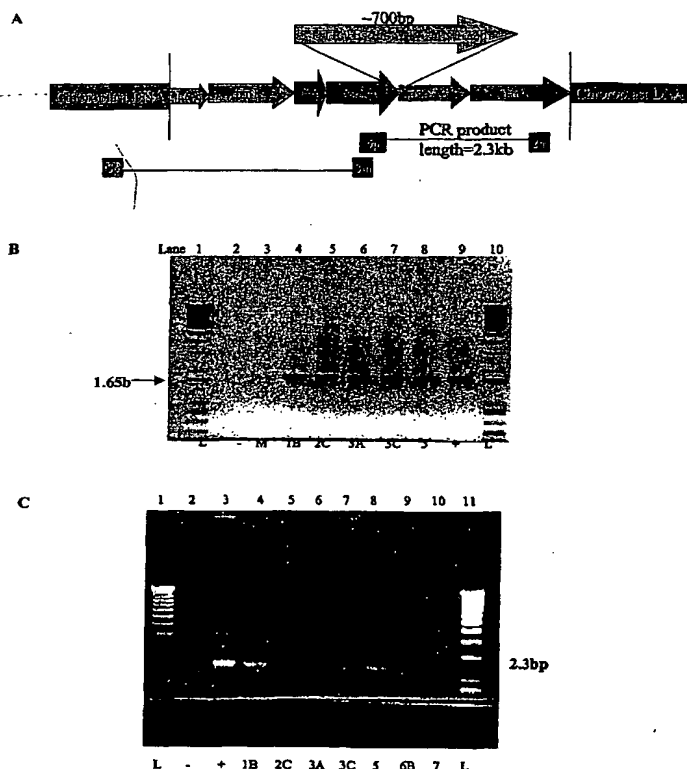
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(54) Title: EXPRESSION OF HUMAN INTERFERON IN TRANSGENIC CHLOROPLASTS



(57) **Abstract:** A plasmid transformation vector for a stably transforming a plastid genome is provided. The vector includes, as operably-linked components, a first flanking sequence, a DNA sequence coding for a therapeutic human IFN, which is capable of expression in the plastid and a second flanking sequence. The invention also provides isolated and purified IFN, wherein the IFN is configured in a monomeric or multimeric form and is a structural equivalent to orally administered human IFN. Also provided are methods for variable-expressing biopharmaceutical proteins in plants suitable for mammal consumption. The method includes integrating a plastid transformation vector into a plastid genome of a plant cell; growing the plant cell to express a biopharmaceutical protein, such as therapeutic human interferon IFN. Also disclosed are plants transformed with the aforementioned vectors, and the progeny thereof. Also, disclosed is the IFN, which is IFN $\alpha$ 2b.